

REMARKS

The Office Action dated September 12, 2003 has been received and carefully noted. The above amendments to the claims, and the following remarks are submitted as a full and complete response thereto. Claims 7-10 are pending in this application with claims 7-10 being amended and claims 1-6 and 11-20 being canceled. A substitute Abstract is also submitted to overcome the objection to the Abstract. No new matter is presented. In the outstanding Office Action, claims 1, 3, 4, 5, 6, 7, and 10 were rejected under 35 U.S.C. §102(b). Claims 2, 3, 4, 5, 6, 8, and 8 were rejected under 35 U.S.C. 103(a). In view of the above amendments and the following remarks, Applicants request the consideration of claims 7-10.

CLAIM OBJECTIONS

Claim 6 was objected to for containing informalities. Claim 6 is cancelled, therefore, the objection to claim 6 is moot.

35 U.S.C. 112

Claim 10 was rejected under 35 U.S.C. 112 as being indefinite. Specifically, the Office Action indicates that claim 10, which depends upon claims 7 or 8, contains a limitation, which does not have proper antecedent basis. In order to overcome this rejection, claim 10 is amended to depend from claim 9. As a result, proper antecedent basis for the recited limitations is provided. Accordingly, Applicants request the withdrawal of the rejection of claim 10 under 35 U.S.C. 112.

35 U.S.C. 102(b)

Claims 1, 3, 4, 5, 6, 7, and 10 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kakinami et al. (U.S. Patent No. 5,230,400). Claims 1-6 are cancelled. Therefore, the rejection of claims 1-6 is moot. The Office Action takes the position that Kakinami teaches or suggests all the features recited in claims 7 and 10. Applicants respectfully disagree.

Claim 7 is directed to an auto-cruise apparatus comprising a vehicle-to-vehicle distance controller for controlling a vehicle speed of a subject vehicle with a set vehicle speed as an upper limit of said vehicle speed such that a vehicle-to-vehicle distance between the subject vehicle and a preceding vehicle becomes equal to a set vehicle-to-vehicle distance. The apparatus controls the vehicle speed such that the vehicle speed becomes equal to the set vehicle speed when it is determined that there exists no preceding vehicle and input means capable of being operated by a driver with regard to a vehicle-to-vehicle distance control performed by the vehicle-to-vehicle distance controller wherein the set vehicle-to-vehicle distance and the set vehicle speed can be set by the driver via the input means. The auto-cruise apparatus comprises a constant vehicle speed controller for controlling the vehicle speed such that the vehicle speed is maintained at the set vehicle speed whether a preceding vehicle may exist or not. A mode selector for selecting, in accordance with predetermined operations upon the input means, either a vehicle-to-vehicle distance control mode in which a travel of the subject vehicle is controlled by the vehicle-to-vehicle distance controller or a constant vehicle speed control mode in which the travel is controlled by the constant vehicle speed controller. A travel control by either the vehicle-to-vehicle distance controller or the constant vehicle speed controller is performed in accordance with a travel mode that has been selected by the mode selector. The input means further comprises vehicle-to-vehicle distance setting means for setting the set vehicle-to-vehicle distance. The mode selector performs a switching from the constant vehicle speed control mode to the vehicle-to-vehicle distance control mode in response to such operation upon the vehicle-to-vehicle distance setting means that decreases the vehicle-to-vehicle distance when the subject vehicle is in the constant vehicle speed control mode.

Kakinami is directed to a vehicle cruise control system that utilizes a video camera to follow a vehicle driving ahead at a constant distance and speed. The system detects the distance to a vehicle and a relative speed to set the upper and lower limitations for the distance and the speed. Kakinami also discloses a microprocessor that controls four modes: a Waiting Mode, a Lock on Mode, a Distance Control Mode and a Speed Control Mode. Thus, when the system enters the Distance Control Mode, the vehicle-to-vehicle distance is automatically set to a range defined with a lower limit distance L_d and upper

limit distance Lu (See Column 6, Lines 14-50). As a result, the driver cannot actively change the setting of the vehicle-to-vehicle distance.

In the claimed invention, however, the auto-cruise apparatus enables the driver to actively change the setting of the vehicle-to-vehicle distance via the distance setting means. Thus, the setting of the vehicle-to-vehicle distance can be changed to decrease by the driver's operation of the distance setting means. Such an active setting of the vehicle-to-vehicle distance is not disclosed by the cited art. In other words, Kakinami does not teach and/or suggest the distance setting means enabling a driver to increase or decrease the setting of the vehicle-to-vehicle distance. Accordingly, Kakinami fails to teach and/or suggest a vehicle-to-vehicle distance setting means for setting the set vehicle-to-vehicle distance. Kakinami also fails to teach and/or suggest a mode selector which performs a switching from the constant vehicle speed control mode to the vehicle-to-vehicle distance control mode in response to such operation upon the vehicle-to-vehicle distance setting means that decreases the vehicle-to-vehicle distance when the subject vehicle is in the constant vehicle speed control mode. Therefore, Applicants respectfully request the withdrawal of the rejection of claims 7 and 10 under 35 U.S.C. 102(b).

35 U.S.C. 103(a)

Claims 2, 3, 4, 5, 6, 8 and 10 were rejected under 35 USC §103(a) as being unpatentable over Kakinami et al. in view of Nishimura (U.S. Patent No. 5,695,020). Claims 2-6 are cancelled. Therefore, the rejection of claims 2-6 is moot. The Office Action takes the position that Kakinami teaches and/or suggests all the features recited in claims 8 and 10 except that the apparatus operates as a function of the operating time of the input means. The Office Action utilizes Nishimura to teach and/or suggest this feature. Applicants respectfully request reconsideration of claims 8 and 10.

Claim 8 recites an auto-cruise apparatus comprising a vehicle-to-vehicle distance controller for controlling a vehicle speed of a subject vehicle with a set vehicle speed as an upper limit of the vehicle speed such that a vehicle-to-vehicle distance between the subject vehicle and a preceding vehicle becomes equal to a set vehicle-to-vehicle distance. The apparatus also controls the vehicle speed such that the vehicle speed becomes equal to the set vehicle speed when it is determined that there exists no preceding vehicle and input

means capable of being operated by a driver with regard to a vehicle-to-vehicle distance control performed by the vehicle-to-vehicle distance controller. The set vehicle-to-vehicle distance and the set vehicle speed can be set by the driver via the input means. The auto-cruise apparatus further comprises a constant vehicle speed controller for controlling the vehicle speed such that the vehicle speed is maintained at the set vehicle speed whether a preceding vehicle may exist or not. A mode selector for selecting, in accordance with predetermined operations upon the input means, either a vehicle-to-vehicle distance control mode in which a travel of the subject vehicle is controlled by the vehicle-to-vehicle distance controller or a constant vehicle speed control mode in which the travel is controlled by the constant vehicle speed controller. A travel control by either the vehicle-to-vehicle distance controller or the constant vehicle speed controller is performed in accordance with a travel mode that has been selected by the mode selector. The input means further comprises vehicle-to-vehicle distance setting means for setting the set vehicle-to-vehicle distance. The mode selector performs a switching from the vehicle-to-vehicle distance control mode to the constant vehicle speed control mode in response to such operation upon the vehicle-to-vehicle distance setting means that increases the vehicle-to-vehicle distance and is performed for a predetermined time period or more when the subject vehicle is in the vehicle-to-vehicle distance control mode.

Nishimura is directed to a cruise controller for vehicles that sets a target vehicle-interval distance and executes the auto cruise control for controlling the vehicle speed so as to maintain the target vehicle-interval distance. However, the combination of Kikinami and Nishimura fail to teach and/or suggest all the features recited in claims 8 and 10. Specifically, the cited references fail to teach and/or suggest a vehicle-to-vehicle distance setting means for setting the set vehicle-to-vehicle distance.

Although Nishimura discloses a cruise control for a vehicle that sets a target vehicle-interval distance, Nishimura does not cure the deficiency of Kikinami. Specifically, the cited references fail to teach and/or suggest a vehicle-to-vehicle distance setting means for setting the set vehicle-to-vehicle distance. The cited references also fail to teach and/or suggest a mode selector that performs a switching from the vehicle-to-vehicle distance control mode to the constant vehicle speed control mode in response to such operation upon the vehicle-to-vehicle distance setting means that increases the vehicle-to-vehicle

distance and is performed for a predetermined time period or more when the subject vehicle is in the vehicle-to-vehicle distance control mode.

Furthermore, claim 10 is dependent upon claim 9, which also recites this feature. Therefore, it is submitted that claim 10 recites subject matter that is patentable for at least the reasons mentioned above. Accordingly, Applicants request the withdrawal of the rejection of claims 8 and 10 under 35 U.S.C. 103(a).

Allowable Subject Matter

Claims 9 and 10 have been indicated to contain allowable subject matter. Claim 9 is amended to be independent form and claim 10 is amended to depend upon claim 9. Therefore, Applicants submit that claims 9 and 10 are now in condition for allowance. Therefore, Applicants respectfully request the withdrawal of the objection to claims 9 and 10.

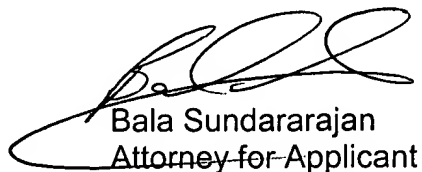
Conclusion

Applicants' amendments and remarks have overcome the objections and rejections set forth in the Office Action dated September 12, 2003. Claim 10 is amended to overcome the 112 rejection and Applicants' remarks have distinguished claims 7 and 10 from the cited reference and thus overcome the rejection of these claims under 35 U.S.C. §102. Applicants' remarks have also distinguished claims 8 and 10 from the combination of the cited references and thus overcome the rejection of these claims under 35 U.S.C. § 103. Accordingly, claims 7-10 are in condition for allowance. Therefore, Applicants respectfully request consideration and allowance of claims 7-10.

Applicants submit that the application is now in condition for allowance with claims 7-10 contained therein. Should the Examiner believe the application is not in condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

In the event this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. The Commissioner is authorized to charge payment for any additional fees, which may be required with respect to this paper to Counsel's Deposit Account 01-2300.

Respectfully submitted,
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Enclosure(s): Abstract of the Disclosure